

WEST Search History

DATE: Tuesday, November 30, 2004

Hide?	Set Name	Query	Hit Count
		<i>DB=PGPB; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L10	L9 and crystal\$7	0
<input type="checkbox"/>	L9	periplasmic chaperon	1
		<i>DB=USPT,USOC,EPAB,JPAB,DWPI; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L8	L7 and crystal\$7	2
<input type="checkbox"/>	L7	periplasmic chaperon	2
<input type="checkbox"/>	L6	d-mannose binding adhesion	0
<input type="checkbox"/>	L5	d-mannose binding adhesion and periplasmic chaperon	0
		<i>DB=PGPB; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L4	Fimc and fimH and crystal	15
		<i>DB=USPT,USOC,EPAB,JPAB,DWPI; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L3	Fimc and fimH and crystal	8
<input type="checkbox"/>	L2	Fim c and fim H	0
<input type="checkbox"/>	L1	Fim c and fim H and crystal	0

END OF SEARCH HISTORY

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Clear	Generate Collection	Print	Fwd Refs	Bkwd Refs
Generate OACS				

Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. Document ID: US 20020176868 A1

Using default format because multiple data bases are involved.

L9: Entry 1 of 1

File: PGPB

Nov 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020176868

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020176868 A1

TITLE: Isolation and characterization of the csa operon (ETEC-CS4 pili) and methods of using same

PUBLICATION-DATE: November 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Altbaum, Zeev	Ramat Aviv	MD	IL	
Levine, Myron M.	Columbia	MD	US	
Barry, Eileen M.	Elkridge		US	

US-CL-CURRENT: 424/190.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw D
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Terms	Documents
periplasmic chaperon	1

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Search Results - Record(s) 1 through 2 of 2 returned.

☐ 1. Document ID: US 5968769 A

Using default format because multiple data bases are involved.

L8: Entry 1 of 2

File: USPT

Oct 19, 1999

US-PAT-NO: 5968769

DOCUMENT-IDENTIFIER: US 5968769 A

TITLE: Sequence and analysis of LKP pilin structural genes and the LKP pili operon of nontypable Haemophilus influenzae

DATE-ISSUED: October 19, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Green; Bruce A.	Pittsford	NY		
Brinton, Jr.; Charles C.	Export	PA		

US-CL-CURRENT: 435/69.1; 435/320.1, 435/325, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw D
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☐ 2. Document ID: US 5834187 A

L8: Entry 2 of 2

File: USPT

Nov 10, 1998

US-PAT-NO: 5834187

DOCUMENT-IDENTIFIER: US 5834187 A

TITLE: Sequence and analysis of LKP pilin structural genes and the LKP pili operon of nontypable Haemophilus influenzae

DATE-ISSUED: November 10, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Green; Bruce A.	Pittsford	NY		
Brinton, Jr.; Charles C.	Export	PA		

US-CL-CURRENT: 435/6; 424/130.1, 424/141.1, 424/242.1, 435/287.2, 435/326, 435/331, 435/332, 435/7.3, 435/70.21, 435/91.2, 530/350, 530/388.1, 530/389.1, 530/866, 530/867, 536/23.1, 536/24.3, 536/24.32, 536/24.33

ABSTRACT:

The invention relates to the isolation and cloning of the structural gene, hipP, for the NTHi pili serotype 5 and the LKP operon. The invention relates to DNA molecules capable of hybridizing to the DNA sequences of the Haemophilus influenzae genome related to the pili. The invention further relates to a DNA molecule which encodes a pili protein, particularly a tip adhesion protein. The DNA molecules of the invention can be used in a method for assaying a sample, such as a blood sample, for the presence of Haemophilus influenzae in the sample. Accordingly, the invention further relates to the use of the DNA molecules as a diagnostic. The invention also relates to a recombinant Haemophilus influenzae pili protein, such as a tip adhesion protein. The protein can be employed in a method for immunizing an animal, such as a human, as a therapeutic or diagnostic.

25 Claims, 20 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 14

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstracts	Attachments	Claims	KMC	Draw D
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Clear	Generate Collection	Print	Fwd Refs	Bkwd Refs	Generate OACS
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Terms	Documents
L7 and crystal\$7	2

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Search Results - Record(s) 1 through 15 of 15 returned.

☐ 1. Document ID: US 20040132164 A1

Using default format because multiple data bases are involved.

L4: Entry 1 of 15

File: PGPB

Jul 8, 2004

PGPUB-DOCUMENT-NUMBER: 20040132164

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040132164 A1

TITLE: Methods and compositions for inhibiting adhesion by microorganisms

PUBLICATION-DATE: July 8, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Doyle, Ron J.	Louisville	KY	US	
Cowan, M. M.	Cincinnati	OH	US	

US-CL-CURRENT: 435/252.3

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMIC	Draw D
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☐ 2. Document ID: US 20040067544 A1

L4: Entry 2 of 15

File: PGPB

Apr 8, 2004

PGPUB-DOCUMENT-NUMBER: 20040067544

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040067544 A1

TITLE: Use of adhesion molecules as bond stress-enhanced nanoscale binding switches

PUBLICATION-DATE: April 8, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Vogel, Viola	Seattle	WA	US	
Thomas, Wendy	Seattle	WA	US	
Forero, Manu	Seattle	WA	US	
Sokurenko, Evgeni	Seattle	WA	US	

US-CL-CURRENT: 435/7.32

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Data
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☐ 3. Document ID: US 20030224468 A1

L4: Entry 3 of 15

File: PGPB

Dec 4, 2003

PGPUB-DOCUMENT-NUMBER: 20030224468

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030224468 A1

TITLE: Treatment or prophylaxis of diseases caused by pilus-forming bacteria

PUBLICATION-DATE: December 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Hultgren, Scott	Ballwin	MO	US	
Kuehn, Meta	Berkeley	CA	US	
Xu, Zheng	Blue Bell	PA	US	
Ogg, Derek	Uppsala	MO	SE	
Harris, Mark	Uppsala		SE	
Lepisto, Matti	Lund		SE	
Jones, Charles Hal	Saint Louis		US	
Kihlberg, Jan	Dalby		SE	

US-CL-CURRENT: 435/7.32; 514/110, 514/327, 514/42, 536/18.7, 536/4.1, 546/242

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Data
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☐ 4. Document ID: US 20030199071 A1

L4: Entry 4 of 15

File: PGPB

Oct 23, 2003

PGPUB-DOCUMENT-NUMBER: 20030199071

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030199071 A1

TITLE: Mutant proteins, high potency inhibitory antibodies and fimch crystal structure

PUBLICATION-DATE: October 23, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Langermann, Solomon	Baltimore	MD	US	
Hultgren, Scott J.	Town and Country	MO	US	
Hung, Chia-Suei	St. Louis	MO	US	
Bouckaert, Julie	St. Louis	MO	US	

US-CL-CURRENT: 435/200; 702/19

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. De
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☐ 5. Document ID: US 20030198992 A1

L4: Entry 5 of 15

File: PGPB

Oct 23, 2003

PGPUB-DOCUMENT-NUMBER: 20030198992

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030198992 A1

TITLE: Treatment or prophylaxis of diseases caused by pilus-forming bacteria

PUBLICATION-DATE: October 23, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Hultgren, Scott	Ballwin	MO	US	
Kuehn, Meta	Berkeley	CA	US	
Xu, Zheng	Blue Bell	PA	US	
Ogg, Derek	Stockholm	MO	SE	
Harris, Mark	Uppsala		SE	
Lepisto, Matti	Lund		SE	
Jones, Charles Hal	Saint Louis		US	
Kihlberg, Jan	Dalby		SE	

US-CL-CURRENT: 435/7.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. De
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☐ 6. Document ID: US 20030198956 A1

L4: Entry 6 of 15

File: PGPB

Oct 23, 2003

PGPUB-DOCUMENT-NUMBER: 20030198956

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030198956 A1

TITLE: Staged assembly of nanostructures

PUBLICATION-DATE: October 23, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Makowski, Lee	Hinsdale	IL	US	
Hyman, Paul L.	Everett	MA	US	
Williams, Mark K.	Revere	MA	US	

US-CL-CURRENT: 435/6; 427/2.11, 435/7.1, 435/7.5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 7. Document ID: US 20030175711 A1

L4: Entry 7 of 15

File: PGPB

Sep 18, 2003

PGPUB-DOCUMENT-NUMBER: 20030175711
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030175711 A1

TITLE: Molecular antigen array

PUBLICATION-DATE: September 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Renner, Wolfgang A.	Zurich		CH	
Bachmann, Martin	Winterthur		CH	
Tissot, Alain	Zurich		CH	
Maurer, Patrick	Winterthur		CH	
Lechner, Franziska	Zurich		CH	
Sebbel, Peter	Zurich		CH	
Piossek, Christine	Winterthur		CH	
Ortmann, Rainer	Saint Louis		CH	
Luond, Rainer	Therwil		CH	
Staufenbiel, Matthias	Lorrach		DE	
Frey, Peter	Bern		CH	

US-CL-CURRENT: 435/6; 424/201.1, 435/5, 435/7.32

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 8. Document ID: US 20030175290 A1

L4: Entry 8 of 15

File: PGPB

Sep 18, 2003

PGPUB-DOCUMENT-NUMBER: 20030175290
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030175290 A1

TITLE: Molecular antigen array

PUBLICATION-DATE: September 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Renner, Wolfgang A.	Zurich		CH	
Bachmann, Martin	Winterthur		CH	

Tissot, Alain	Zurich	CH
Maurer, Patrick	Winterthur	CH
Lechner, Franziska	Zurich	CH
Sebbel, Peter	Zurich	CH
Piossek, Christine	Winterthur	CH

US-CL-CURRENT: 424/186.1; 435/287.2, 435/5, 435/6, 435/7.9

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. De
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☐ 9. Document ID: US 20030054010 A1

L4: Entry 9 of 15

File: PGPB

Mar 20, 2003

PGPUB-DOCUMENT-NUMBER: 20030054010
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030054010 A1

TITLE: Molecular antigen array

PUBLICATION-DATE: March 20, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Sebbel, Peter	Zurich		CH	
Dunant, Nicolas	Zurich		CH	
Bachmann, Martin	Winterthur		CH	
Tissot, Alain	Zurich		CH	
Lechner, Franziska	Zurich		CH	
Renner, Wolfgang A.	Zurich		CH	
Hennecke, Frank	Zurich		CH	
Nieba, Lars	Herisau		CH	

US-CL-CURRENT: 424/185.1; 424/186.1, 424/193.1, 424/204.1, 424/93.2, 435/6, 435/91.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. De
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☐ 10. Document ID: US 20030031681 A1

L4: Entry 10 of 15

File: PGPB

Feb 13, 2003

PGPUB-DOCUMENT-NUMBER: 20030031681
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030031681 A1

TITLE: Combined growth factor-deleted and thymidine kinase-deleted vaccinia virus vector

PUBLICATION-DATE: February 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
McCart, J. Andrea	Toronto	PA	CA	
Bartlett, David L.	Pittsburgh	MD	US	
Moss, Bernard	Bethesda		US	

US-CL-CURRENT: [424/186.1](#); [435/235.1](#), [435/456](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. D
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☐ 11. Document ID: US 20020146428 A1

L4: Entry 11 of 15

File: PGPB

Oct 10, 2002

PGPUB-DOCUMENT-NUMBER: 20020146428

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020146428 A1

TITLE: Treatment or prophylaxis of diseases caused by pilus-forming bacteria

PUBLICATION-DATE: October 10, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Hultgren, Scott	Ballwin	MO	US	
Kuehn, Meta	Berkeley	CA	US	
Xu, Zheng	Blue Bell	PA	US	
Ogg, Derek	Stockholm	MO	SE	
Harris, Mark	Uppsala		SE	
Lepisto, Matti	Lund		SE	
Jones, Charles Hal	Saint Louis		US	
Kihlberg, Jan	Dalby		SE	

US-CL-CURRENT: [424/190.1](#); [424/242.1](#), [435/183](#), [435/252.3](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. D
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☐ 12. Document ID: US 20020045199 A1

L4: Entry 12 of 15

File: PGPB

Apr 18, 2002

PGPUB-DOCUMENT-NUMBER: 20020045199

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020045199 A1

TITLE: Treatment or prophylaxis of diseases caused by pilus-forming bacteria

PUBLICATION-DATE: April 18, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Hultgren, Scott	Ballwin	MO	US	
Kuehn, Meta	Berkeley	CA	US	
Xu, Zheng	Blue Bell	PA	US	
Ogg, Derek	Stockholm	MO	SE	
Harris, Mark	Uppsala		SE	
Lepisto, Matti	Lund		SE	
Jones, Charles Hal	Saint Louis		US	
Kihlberg, Jan	Dalby		SE	

US-CL-CURRENT: [435/7.32](#); [514/23](#), [536/116](#), [546/242](#), [549/28](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 13. Document ID: US 20020034774 A1

L4: Entry 13 of 15

File: PGPB

Mar 21, 2002

PGPUB-DOCUMENT-NUMBER: 20020034774

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020034774 A1

TITLE: Treatment or prophylaxis of diseases caused by pilus-forming bacteria

PUBLICATION-DATE: March 21, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Hultgren, Scott	Ballwin	MO	US	
Kuehn, Meta	Berkeley	CA	US	
Xu, Zheng	Blue Bell	PA	US	
Ogg, Derek	Stockholm	MO	SE	
Harris, Mark	Uppsala		SE	
Lepisto, Matti	Lund		SE	
Jones, Charles Hal	Saint Louis		US	
Kihlberg, Jan	Dalby		SE	

US-CL-CURRENT: [435/7.32](#); [536/116](#), [536/117](#), [536/4.1](#), [536/53](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 14. Document ID: US 20020034515 A1

L4: Entry 14 of 15

File: PGPB

Mar 21, 2002

PGPUB-DOCUMENT-NUMBER: 20020034515

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020034515 A1

TITLE: Proteus mirabilis-based vaccine

PUBLICATION-DATE: March 21, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Mobley, Harry L.T.	Baltimore	MD	US	
Li, Xin	Elicott City	MD	US	
Warren, John W.	Baltimore	MD	US	

US-CL-CURRENT: [424/190.1](#); [435/252.3](#), [435/320.1](#), [435/69.3](#), [530/350](#), [536/23.7](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. De
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☐ 15. Document ID: US 20020009436 A1

L4: Entry 15 of 15

File: PGPB

Jan 24, 2002

PGPUB-DOCUMENT-NUMBER: 20020009436

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020009436 A1

TITLE: Methods and compositions for inhibiting adhesion by microorganisms

PUBLICATION-DATE: January 24, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Doyle, Ron J.	Louisville	KY	US	
Cowan, M. M.	Cincinnati	OH	US	

US-CL-CURRENT: [424/94.6](#); [424/94.63](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. De
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Terms	Documents
Fimc and fimH and crystal	15

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Search Results - Record(s) 1 through 8 of 8 returned.

☐ 1. Document ID: US 6720139 B1

Using default format because multiple data bases are involved.

L3: Entry 1 of 8

File: USPT

Apr 13, 2004

US-PAT-NO: 6720139

DOCUMENT-IDENTIFIER: US 6720139 B1

TITLE: Genes identified as required for proliferation in Escherichia coli

DATE-ISSUED: April 13, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Zyskind; Judith	La Jolla	CA		
Ohlsen; Kari L.	San Diego	CA		
Trawick; John	La Mesa	CA		
Forsyth; R. Allyn	San Diego	CA		
Froelich; Jamie M.	San Diego	CA		
Carr; Grant J.	Escondido	CA		
Yamamoto; Robert T.	San Diego	CA		
Xu; H. Howard	San Diego	CA		

US-CL-CURRENT: 435/6; 435/4, 514/2, 514/44

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. D
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☐ 2. Document ID: US 6632431 B2

L3: Entry 2 of 8

File: USPT

Oct 14, 2003

US-PAT-NO: 6632431

DOCUMENT-IDENTIFIER: US 6632431 B2

TITLE: Anti-idiotypic antibody against FimH adhesion of uropathogenic type I-fimbriated Escherichia coli, compositions containing same and method for using same

DATE-ISSUED: October 14, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wu; Xue-Ru	Staten Island	NY		

US-CL-CURRENT: 424/131.1; 424/141.1, 424/184.1, 424/204.1, 424/206.1, 424/239.1,
424/259.1, 424/274.1, 424/422, 424/423 , 424/426, 435/7.1, 530/387.1, 530/387.2

ABSTRACT:

The present invention relates to an anti-idiotypic antibody or antigen-binding fragment against FimH adhesin of uropathogenic Type I-fimbriated *Escherichia coli* and an immunizing composition containing such an anti-idiotypic antibody or antigen-binding fragment thereof as an active immunizing component. The present invention also relates to a method for stimulating and enhancing the production of antibodies which recognize and bind to FimH of uropathogenic Type-I-fimbriated *Escherichia coli*, but not to FimH of non-uropathogenic Type I-fimbriated *Escherichia coli*.

4 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Exemplary	Abstracts	Claims	KWC	Draw. D
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☐ 3. Document ID: US 6596504 B2

L3: Entry 3 of 8

File: USPT

Jul 22, 2003

US-PAT-NO: 6596504

DOCUMENT-IDENTIFIER: US 6596504 B2

TITLE: Treatment of prophylaxis of diseases caused by pilus-forming bacteria

DATE-ISSUED: July 22, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hultgren; Scott	Ballwin	MO		
Kuehn; Meta	Berkeley	CA		
Xu; Zheng	Blue Bell	PA		
Ogg; Derek	Uppsala			SE
Harris; Mark	Uppsala			SE
Lepisto; Matti	Lund			SE
Jones; Charles Hal	Saint Louis	MO		
Kihlberg; Jan	Dalby			SE

US-CL-CURRENT: 435/7.32; 424/130.1, 424/164.1, 424/184.1, 424/185.1, 424/234.1,
424/241.1, 424/278.1, 424/9.1, 424/9.2, 435/252.33, 436/501, 530/300, 530/350

ABSTRACT:

Novel methods for the treatment and/or prophylaxis of diseases caused by tissue-adhering bacteria are disclosed. By interacting with periplasmic molecular chaperones it is achieved that the assembly of pili is prevented or inhibited and thereby the infectivity of the bacteria is diminished. Also disclosed are methods for screening for drugs as well as methods for the de novo design of such drugs, methods which rely on novel computer drug modelling methods involving an

approximative calculation of binding free energy between macromolecules. Finally, novel pyranosides which are believed to be capable of interacting with periplasmic molecular chaperones are also disclosed.

12 Claims, 35 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 24

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. D
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☐ 4. Document ID: US 6548265 B2

L3: Entry 4 of 8

File: USPT

Apr 15, 2003

US-PAT-NO: 6548265

DOCUMENT-IDENTIFIER: US 6548265 B2

TITLE: Treatment or prophylaxis of diseases caused by pilus-forming bacteria

DATE-ISSUED: April 15, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hultgren; Scott	Ballwin	MO		
Kuehn; Meta	Berkeley	CA		
Xu; Zheng	Blue Bell	PA		
Ogg; Derek	Uppsala			SE
Harris; Mark	Uppsala			SE
Lepisto; Matti	Lund			SE
Jones; Charles Hal	Saint Louis	MO		
Kihlberg; Jan	Dalby			SE

US-CL-CURRENT: 435/7.37; 424/184.1, 424/234.1, 424/241.1, 424/242.1, 435/243,
435/252.8, 435/7.32, 703/11

ABSTRACT:

Novel methods for the treatment and/or prophylaxis of diseases caused by tissue-adhering bacteria are disclosed. By interacting with periplasmic molecular chaperones it is achieved that the assembly of pili is prevented or inhibited and thereby the infectivity of the bacteria is diminished. Also disclosed are methods for screening for drugs as well as methods for the de novo design of such drugs, methods which rely on novel computer drug modelling methods involving an approximative calculation of binding free energy between macromolecules. Finally, novel pyranosides which are believed to be capable of interacting with periplasmic molecular chaperones are also disclosed.

9 Claims, 35 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 25

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMIC	Draw. D
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☐ 5. Document ID: US 6420127 B1

L3: Entry 5 of 8

File: USPT

Jul 16, 2002

US-PAT-NO: 6420127

DOCUMENT-IDENTIFIER: US 6420127 B1

TITLE: Compounds and pharmaceutical compositions for the treatment and prophylaxis of bacterial infections

DATE-ISSUED: July 16, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hultgren; Scott	Ballwin	MO		
Kuehn; Meta	Berkeley	CA		
Xu; Zheng	Blue Bell	PA		
Ogg; Derek	Uppsala			SE
Harris; Mark	Uppsala			SE
Lepisto; Matti	Lund			SE
Jones; Charles Hal	Saint Louis	MO		
Kihlberg; Jan	Dalby			SE

US-CL-CURRENT: 435/7.37; 424/241.1, 424/242.1, 424/257.1, 435/849

ABSTRACT:

Novel methods for the treatment and/or prophylaxis of diseases caused by tissue-adhering bacteria are disclosed. By interacting with periplasmic molecular chaperones it is achieved that the assembly of pili is prevented or inhibited and thereby the infectivity of the bacteria is diminished. Also disclosed are methods for screening for drugs as well as methods for the de novo design of such drugs, methods which rely on novel computer drug modelling methods involving an approximative calculation of binding free energy between macromolecules. Finally, novel pyranosides which are believed to be capable of interacting with periplasmic molecular chaperones are also disclosed.

9 Claims, 35 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 25

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMIC	Draw. D
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☐ 6. Document ID: US 6153396 A

L3: Entry 6 of 8

File: USPT

Nov 28, 2000

US-PAT-NO: 6153396

DOCUMENT-IDENTIFIER: US 6153396 A

TITLE: Treatment or prophylaxis of diseases caused by pilus-forming bacteria

DATE-ISSUED: November 28, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hultgren; Scott	Ballwin	MO		
Kuehn; Meta	Berkeley	CA		
Xu; Zheng	Blue Bell	PA		
Ogg; Derek	Uppsala			SE
Harris; Mark	Uppsala			SE
Lepisto ; Matti	Lund			SE
Kihlberg; Jan	Dalby			SE
Jones; Charles Hal	St. Louis	MO		

US-CL-CURRENT: 435/7.32; 424/241.1, 424/242.1, 424/257.1, 435/7.37, 435/849

ABSTRACT:

Novel methods for the treatment and/or prophylaxis of diseases caused by tissue-adhering bacteria are disclosed. By interacting with periplasmic molecular chaperones it is achieved that the assembly of pili is prevented or inhibited and thereby the infectivity of the bacteria is diminished. Also disclosed are methods for screening for drugs as well as methods for the de novo design of such drugs, methods which rely on novel computer drug modelling methods involving an approximative calculation of binding free energy between macromolecules. Finally, novel pyranosides which are believed to be capable of interacting with periplasmic molecular chaperones are also disclosed.

10 Claims, 29 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 24

Full	Title	Citation	Front	Review	Classification	Date	Reference	Examiner	Assignee	Claims	KWIC	Draw D
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☐ 7. Document ID: US 6001823 A

L3: Entry 7 of 8

File: USPT

Dec 14, 1999

US-PAT-NO: 6001823

DOCUMENT-IDENTIFIER: US 6001823 A

TITLE: Treatment or prophylaxis of diseases caused by pilus-forming bacteria

DATE-ISSUED: December 14, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hultgren; Scott	Ballwin	MO		

Kuehn; Meta	Berkeley	CA	94705	
Xu; Zheng	Blue Bell	PA	19422	
Ogg; Derek	Uppsala			SE
Harris; Mark	S-756 45 Uppsala			SE
Lepisto ; Matti	S-224 73 Lund			SE
Kihlberg; Jan	S-240 10 Dalby			SE
Jones; Charles Hal	St. Louis	MO	63110	

US-CL-CURRENT: 514/99, 514/382, 514/459, 514/460, 548/252, 548/253, 549/216,
549/416, 549/417, 549/419, 549/420

ABSTRACT:

Novel methods for the treatment and/or prophylaxis of diseases caused by tissue-adhering bacteria are disclosed. By interacting with periplasmic molecular chaperones it is achieved that the assembly of pili is prevented or inhibited and thereby the infectivity of the bacteria is diminished. Also disclosed are methods for screening for drugs as well as methods for the de novo design of such drugs, methods which rely on novel computer drug modelling methods involving an approximative calculation of binding free energy between macromolecules. Finally, novel pyranosides which are believed to be capable of interacting with periplasmic molecular chaperones are also disclosed.

5 Claims, 34 Drawing figures
 Exemplary Claim Number: 1
 Number of Drawing Sheets: 24

Full	Title	Citation	Front	Review	Classification	Date	Reference	Relevance	Attachments	Claims	KMC	Draw De
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☐ 8. Document ID: AU 2001297896 A1, WO 2002102974 A2, US 20030199071 A1

L3: Entry 8 of 8

File: DWPI

Jan 2, 2003

DERWENT-ACC-NO: 2003-167503

DERWENT-WEEK: 200452

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TITLE: Preventing, treating or ameliorating one or more symptoms of bacterial or viral infection, particularly UTI, using immunospecific antibodies that bind to antigens of mutant FimH protein

INVENTOR: BOUCKAERT, J; HULTGREN, S J ; HUNG, C ; LANGERMANN, S R ; LANGERMANN, S

PRIORITY-DATA: 2001US-301878P (June 29, 2001), 2000US-254353P (December 8, 2000), 2001US-0015085 (December 10, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>AU 2001297896 A1</u>	January 2, 2003		000	C12N000/00
<u>WO 2002102974 A2</u>	December 27, 2002	E	000	C12N000/00
<u>US 20030199071 A1</u>	October 23, 2003		000	C12N009/24

INT-CL (IPC): C12 N 0/00; C12 N 9/24; G01 N 33/48; G01 N 33/50; G06 F 19/00

ABSTRACTED-PUB-NO: WO2002102974A

BASIC-ABSTRACT:

NOVELTY - Preventing, treating or ameliorating one or more symptoms associated with a urinary tract infection (UTI) in a human subject infected with *Escherichia coli*, comprising administering one or more antibodies (I) that immunospecifically bind to one or more antigens of a mutant FimH protein having one or more amino acid substitutions, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) an isolated nucleic acid comprising a nucleotide sequence encoding a heavy or light chain variable domain of (I);
- (2) a vector comprising the nucleic acid of (1);
- (3) a host cell comprising the nucleic acid of (1) operably linked to a heterologous promoter;
- (4) altering the antigenic properties of an adhesin protein or protein complex that binds an associated ligand, comprising introducing one or more amino acid mutations into a starting adhesin protein or protein complex to yield a mutant adhesin protein or protein complex that elicits production of an antibody having increased functional inhibitory activity compared to an antibody elicited by the starting adhesin protein or protein complex;
- (5) a mutant FimH protein or protein complex that binds an associated ligand, where the mutant FimH protein or protein complex has one or more amino acid mutations relative to a starting FimH protein or protein complex, and where the mutant adhesin protein or protein complex elicits production of an antibody having increased functional inhibitory activity compared to an antibody elicited by the starting adhesin protein or protein complex;
- (6) a vaccine composition comprising the mutant protein of (5);
- (7) vaccinating a subject, comprising administering the vaccine of (6);
- (8) an isolated nucleic acid comprising a nucleotide sequence encoding the protein of (5);
- (9) a vector comprising the nucleic acid of (8);
- (10) a host cell comprising the nucleic acid of (8);
- (11) a mutant protein or protein complex comprising a FimH protein that comprises a mutation that is D54A, D54N, Q133K, Q133N, Q133H, Q133R or N135D;
- (12) a co-crystal comprising FimC, FimH and mannopyranoside in crystalline form;
- (13) making the crystal of (12), comprising mixing a volume of a solution comprising the FimC, FimH and mannopyranoside with a volume of a reservoir solution comprising a precipitant, and incubating the mixture obtained over the reservoir solution in a closed container, under conditions suitable for crystallization until the crystal forms;
- (14) a machine-readable medium embedded with formation that corresponds to a three-dimensional structural representation of a co-crystal comprising FimC, FimH or a fragment or portion, and a mannose sugar in crystalline form;

(15) identifying a FimC or FimH binding compound,, comprising using a three-dimensional structural representation of complex comprising FimC, FimH and mannopyranoside, or a fragment, to computationally screen a candidate compound for an ability to bind FimC or FimH or to computationally design a synthesizable candidate compound that binds FimC or FimH;

(16) a machine-readable medium embedded with the atomic structure coordinates of the crystalline FimCH- α -D-mannopyranoside co-complex given in the specification; and

(17) a co-crystal comprising FimC, FimH and a saccharide.

ACTIVITY - Antibacterial; Virucide.

Functional inhibitory properties of antibodies were measured by the ability to block binding of type 1 piliated bacteria to transformed human bladder J82 cell line. The results showed that although titers were low, antibodies to FimCH Q133K had a better in vitro functional inhibitory effect or activity when compared to wild type FimH antibodies.

MECHANISM OF ACTION - Vaccine; Mannose-Binding-Protein-Antagonist.

USE - The methods and compositions of the present invention are useful for the prevention, treatment and/or amelioration of a bacterial or viral infection; in particular a urinary tract infection.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequence	Abstract	Claims	KIMC	Draw D
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Clear	Generate Collection	Print	Fwd Refs	Bkwd Refs	Generate OACS
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Terms	Documents
Fimc and fimH and crystal	8

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